

assembly is in use; and

receiving electrical energy, which has a voltage and a current, and providing such to said ballast modules;

wherein the resonance frequency is set in excess of 50 kHz.

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36. The method of Claim 35, wherein the resonance frequency is substantially set in a first range of 50kHz to 1 MHz.

37. The method of Claim 35, wherein the resonance frequency is

10 substantially set in a first range of 100 kHz to 150 kHz.

38. The method of Claim 35, wherein the resonance frequency is substantially set in a first range of 200 kHz to 250 kHz

15 39. The method of Claim 36, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 50kHz to 1 MHz to control the power supplied to said at least one ultraviolet lamp.

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40. The method of Claim 37, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially in a second range of 150 KHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

25 41. The method of Claim 38, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially in a second range of 150 KHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

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JULY 10 2008

42. The method of Claim 35, wherein the resonant circuit comprises of a capacitance and an inductance in series.

43. The method of Claim 35, further comprising
5 monitoring said ballast modules and said ultraviolet lamps.

44. The method of Claim 35, wherein said ballast modules are removable from the fluid treatment assembly.

10 45. The method of Claim 35, further comprising
synchronizing the voltage and current of the electrical energy as
viewed by an electrical energy monitor.

15 46. The method of Claim 35, wherein the resonance frequency is set at
greater than 50 kHz for reduced size of components so that the width of a
ballast sleeve of a ballast module is substantially the same as the width of a
lamp sleeve of an ultraviolet lamp.

20 47. The method of Claim 35, further comprising
immersing said ballast modules in the fluid for cooling by the fluid.

25 48. A method of operating a ballast for powering at least one ultraviolet
lamp with electrical energy, said at least one ultraviolet lamp being for use in a
photochemical treatment of a fluid, where the ballast is to be immersed in the
fluid for cooling by the fluid, the method comprising:
generating an alternating voltage source to power said at least one
ultraviolet lamp using a resonant circuit having a resonance frequency; and
supplying the resonant circuit with pulses of electrical energy using a
driver circuit having a pulse frequency;
30 wherein the resonance frequency is set in excess of 50 kHz.

49. The method of Claim 48, wherein the resonance frequency is substantially set in a first range of 50kHz to 1 MHz.

50. The method of Claim 48, wherein the resonance frequency is

5 substantially set in a first range of 100 kHz to 150 kHz.

51. The method of Claim 48, wherein the resonance frequency is

substantially set in a first range of 200 kHz to 250 kHz.

10 52. The method of Claim 49, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 50kHz to 1 MHz to control the power supplied to said at least one ultraviolet lamp.

15 53. The method of Claim 50, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 150 kHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

20 54. The method of Claim 51, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 150 kHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

25 55. The method of Claim 48, wherein the resonant circuit comprises of a capacitance and an inductance in series.

30 56. The method of Claim 48, wherein the resonance frequency is set at greater than 50 kHz for reduced size of components so that the width of a